

532

DART AEROSPACE LTD	Work Order:	23756
Description: Tube Assembly	Part Number:	D3304-044
Dwg: D3304 Rev. A/B 05.08.12	Qty:	2

Page 1 of 1

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler	AK	05/08/12	2
2	MC	Cut blank: 22.00" as per Dwg D3304 Material: AISI 304/316 SS tubing 0.875" x 0.065" wall (M304TR0.875W.065) Identify for D3304-3 Batch: M16258	PF	05/08/30	2
3	MC	Turn as per Folio FA458 and Dwg D3304 Identify as D3304-3	PF	05/08/30	2
4	QC2	Inspect parts as they come off the CNC machine	PF	05/08/30	2
5	QC8	Second check	ML	05/08/30	2
6	MC	Deburr	PF	05/08/30	2
7	GA	Drill as per Dwg D3304 using drill Jig D3304-T1	PD	06.04.10	2
8	GA	Form as per Dwg D3304	PD	06.04.10	2
9	GA	Cut tube to length as per Dwg D3304	PD	06.04.10	2
10A	GA	Deburr	SB	06.04.11	2
10B	QC5	INSPECT WORK TO STEP 10A	SB	06.04.12	2
11	WS	Weld bracket as per Dwg D3304 and QSI 004 Pick: Qty Part Number Description Batch	AK	06/04/13	2
		1 D3304-58 Bracket B05157			
12	QC9	Inspect weld	PD	06.04.13	2
13	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3	DL	06/04/15	2
14	QC3	Inspect Powder Coat	SB	06/04/17	2
15	GA	Assemble lanyard and pip pin as per Dwg D3304 Pick: Qty Part Number Description Batch			
		1 BLBS-0016 Pip Pin M16258			
		2 CBL-460 Loop Sleeve M19476			
		12.5" CBL-1240 Cable 77430			
16	QC5	Inspect work to Step 15	FF	06.04.17	2
17	ST	Identify parts with batch number and part number using a fine point permanent marker as per Dwg D3304 and Stock	PD	06/04/19	2
18	AC	Cost / part: _____	ML	06/04/20	2
19	DC	Close W/O Inspect Level 21	PD	06/04/20	2

Rev	Date	Change	Revised By	Approved
A	04.09.08	New issue	KJ/JLM	
B	04.09.28	BLBS-0016 changed from BLRS-001	KJ/JLM	
C	04.11.17	Revised Step 15	KJ/JLM	

RELEASED

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
		6 one scrap Bad part	BS 06/04/20	destroy	BS 06/04/20	BS 06/04/20	BS 06/04/20	BS 06/04/20

Part No: _____

PAR #: _____

Fault Category: _____

NCR: Yes No DQA: 

Date: 06/04/20

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____

DART AEROSPACE LTD	Work Order:	23756
Description: Tube Assembly	Part Number:	D3304-3
Inspection Dwg: D3304	Rev: AB	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

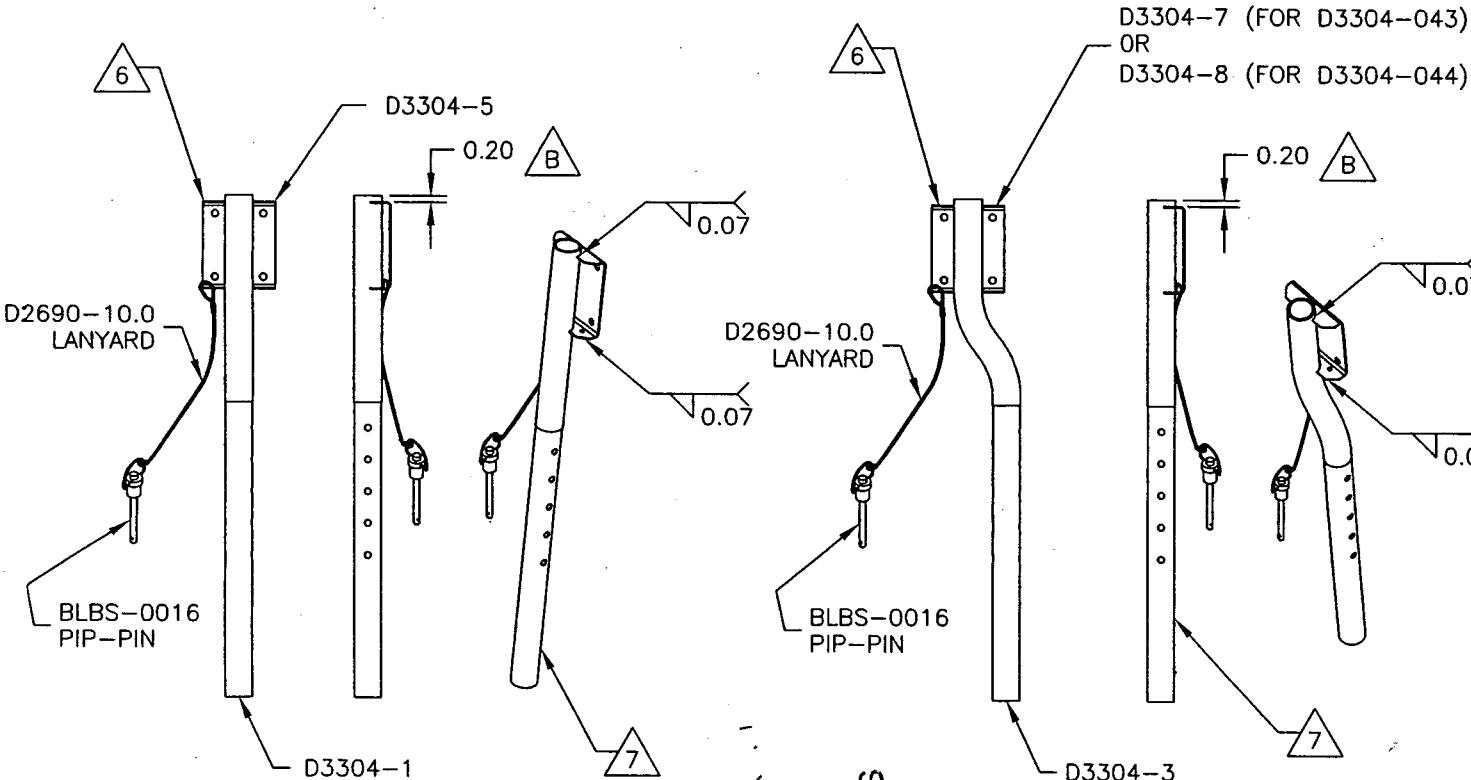
Measured by:	<i>jl</i>	Audited by:	<i>gml</i>	Prototype Approval:	N/A
Date:	05/08/20	Date:	05/08/20	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.09.08	New Issue	P/O D3304-043/-044	KJ/JLM

RELEASED
04-09-20



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED <i>W</i>	APPROVED <i>W</i>	DRAWING NO. D3304
DATE 05.07.15		TITLE TUBE ASSEMBLY
A	04.08.18	SCALE 1:6
B	05.07.15	UPDATE DIMENSIONS; ADD D3304-7/-8



D3304-041 TUBE ASSEMBLY

D3304-044 TUBE ASSEMBLY (SHOWN)
D3304-043 OPPOSITE

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23/56

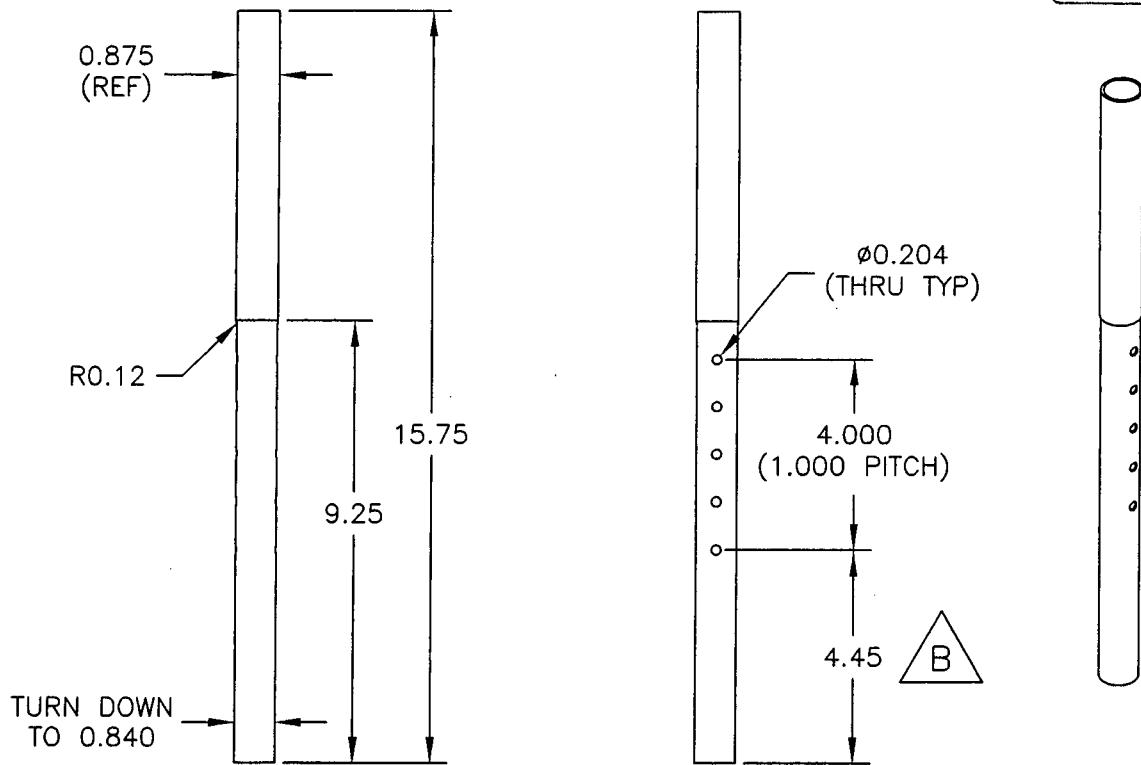
RELEASED
25.08.11
W

D3304-041/-043/-044 NOTES:

- 1) FINISH: POWDER COAT GREY SANTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

DART

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304
DATE 05.07.15	TITLE TUBE ASSEMBLY	REV. B SHEET 2 OF 4 SCALE 1:4

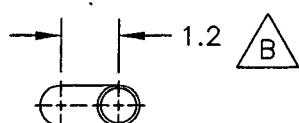
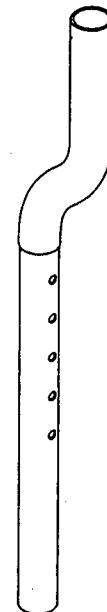
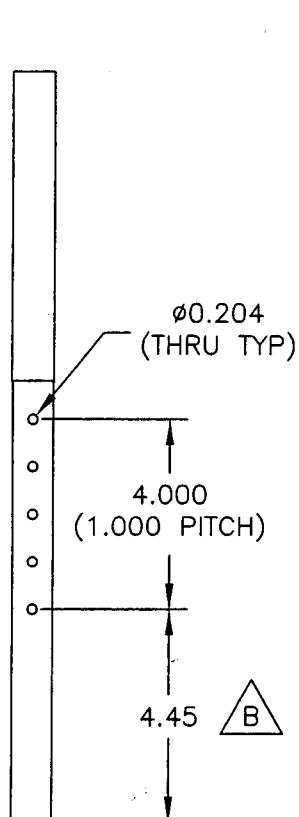
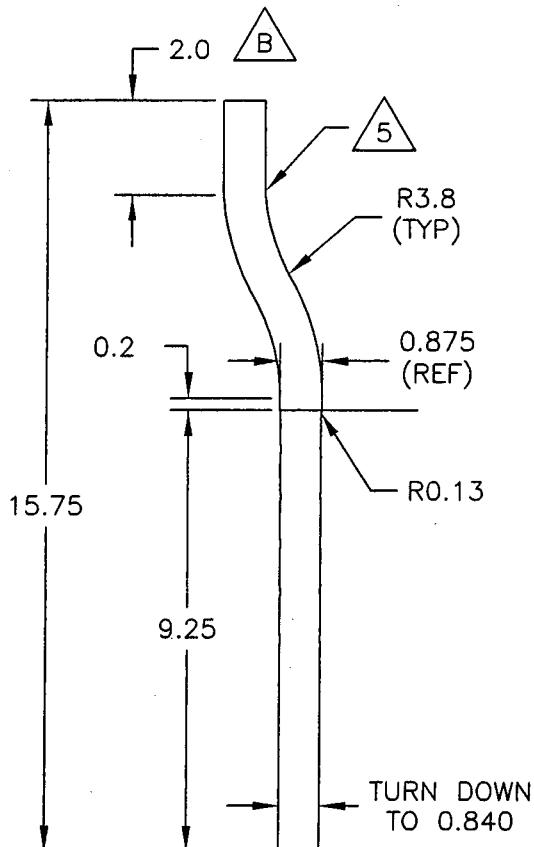
RELEASED
05.08.11 *[Signature]***SHOP COPY**RETURN TO
ENGINEERING**UNCONTROLLED COPY**NOT TO AMENDMENT
WITHOUT NOTICE**WORK ORDER**NO. 23756**D3304-1 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE Ø0.875 x 0.065 WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15	TITLE TUBE ASSEMBLY		SCALE 1:4



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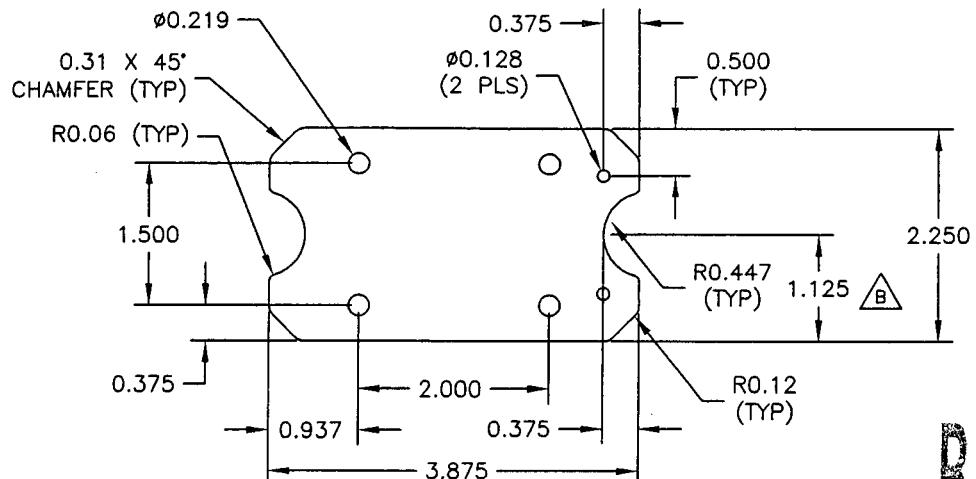
DO NOT AMENDMENT
THICK NOTICE

WORK ORDER

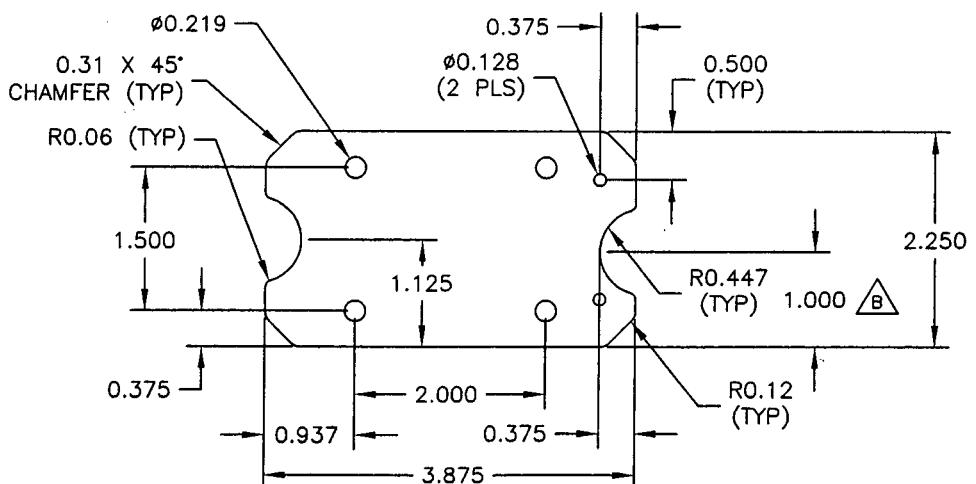
NO. *23756*

D3304-3 NOTES:

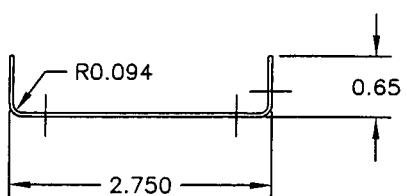
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE Ø0.875 x 0.065 WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS



D3304-5 FLAT PATTERN



~~D3304-7/-8 FLAT PATTERN~~



D3304-5/-7 BRACKET
D3304-8 OPPOSITE

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ENG'NG

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7-~~EXHIBIT~~
7-~~EXHIBIT~~

FR NOTICE

WOMAN'S DRESS

2751

NO. 23156

NOTES:

NOTES:

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

Job Costing Report

Dart Aerospace Ltd.
HawkesburyJul 05, 2005
01:35 pm

Work Order No : 0023756
 Project Name : D3304-044
 Project For : WK532
 Work Order Type : Main
 Main WO Number :
 House Part Number : D3304-044
 Description : Tube Assembly
 Manufactured : Yes
 Amount Req'd : 2
 Amount Done : 0
 Start Date : 07-05-05
 Est Finish Date : 08-10-05
 Act Finish Date :
 Drawings Reqd : No
 Ok for Approval :
 Approval Rec'd : \$0 Posted to Finished Goods

Department Code:
 Burden Flags : NNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00

Order Entry No :
 OE Value : 0.00

Est Mark Up : 0.000%
 Actual Mark Up : 0.000%

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00	0.00	0.00
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00	0.00	0.00
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00	0.00	0.00
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00	0.00	0.00
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00	0.00	0.00
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00	0.00	0.00
Misc. :	0.00	0.00	0.00	0.00	0.00
<hr/>					
Burden :	0.00	0.00	0.00	0.00	0.00
<hr/>					
Total Cost :	0.00	0.00	0.00	0.00	0.00
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss)	0.00	0.00

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
10:36 am

Work Order No : 0023756
 Project Name : D3304-044
 Project For : WK532
 Work Order Type : Main
 Main WO Number :
 House Part Number : D3304-044
 Description : Tube Assembly
 Manufactured : Yes
 Amount Req'd : 2
 Amount Done : 0
 Start Date : 07-05-05
 Est Finish Date : 08-10-05
 Act Finish Date :
 Drawings Reqd : No
 Ok for Approval :
 Approval Rec'd : \$0 Posted to Finished Goods

Department Code:
 Burden Flags : NNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00

Order Entry No :
 OE Value : 0.00

Est Margin : 0.000%
 Actual Margin : 0.000%

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	1.00	100.00		
Production Cost :	0.00	20.27	100.00	0.00	20.27
Packaging Hours :	0.00	0.00	0.00	0.00	
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00	0.00	
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	1.00	100.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00	0.00	
Misc. :	0.00	0.00	0.00	0.00	0.00
===== ===== =====					
Burden :	0.00	0.00	0.00		
===== ===== =====					
Total Cost :	0.00	20.27	100.00		
Margin :	0.000	0.000			
Selling Cost :	0.00	20.27			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/ (Loss) :	0.00	(-20.27)

MB 0/3
 W 13
 W 13

Date: Monday, 14/11/2005 8:53:26 AM
 User: Alba Panzuto

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: TUBE ASSEMBLY		
Job Number	: 23756					
Estimate Number	: 10426					
P.O. Number	:			Part Number	: D3304044	
This Issue	: 14/11/2005		S.O. No. :	Drawing Number	: D3304 REV. B	
Prsht Rev.	: NC			Project Number	:	
First Issue	: / /		Type :	Drawing Revision	: B	
Previous Run	:			Material	:	
Written By	:			Due Date	: 15/12/2005	
Checked & Approved By	:			Qty:	2 Um: Each	
Comment	: Est: D 04.11.26 Revised Steps 7 KJ/JLM					

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M304TR0875W065	SS TUBING
2.0	HARDINGE	HARDINGE CNC LATHE SMALL
Comment: HARDINGE CNC LATHE SMALL 1- Cut blank: 22.00" as per Dwg D3304 2- Turn as per Folio FA458 and Dwg D3304 3- Deburr		
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		
4.0	QC8	SECOND CHECK
Comment: SECOND CHECK		
5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1
Comment: SMALL & MEDIUM FAB RESOURCE 1 1- Drill as per Dwg D3304 using drill Jig D3304-T1 2- Form as per Dwg D3304 3- Cut tube to length as per Dwg D3304 4- Deburr		
6.0	QC5	INSPECT WORK TO CURRENT STEP
Comment: INSPECT WORK TO CURRENT STEP		

Date: Monday, 14/11/2005 8:53:26 AM
User: Alba Panzuto

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services		Drawing Name: TUBE ASSEMBLY
Job Number: 23756		Part Number: D3304044
Job Number: 		
Seq. #:	Machine Or Operation:	Description :
7.0	D33048	Bracket
8.0	LARGE FAB 1 	LARGE FABRICATION RESOURCE 1 
Comment: LARGE FABRICATION RESOURCE 1 Weld bracket as per Dwg D3304 and QSI 004		
9.0	QC9 	VISUAL WELDING INSPECTION 
Comment: VISUAL WELDING INSPECTION		
10.0	POWDER COATING 	POWDER COATING 
Comment: POWDER COATING Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3		
11.0	QC3 	INSPECT POWDER COAT/CHEMICAL CONVERSION 
Comment: INSPECT POWDER COAT		
12.0	BLBS0016	PIP PIN
13.0	CBL460	Loop Sleeve
14.0	CBL1240	Cable
15.0	SMALL FAB 1 	SMALL & MEDIUM FAB RESOURCE 1 
Comment: SMALL & MEDIUM FAB RESOURCE 1 Assemble lanyard and pip pin as per Dwg D3304 Identify as D3304-044		
16.0	QC5 	INSPECT WORK TO CURRENT STEP 
Comment: INSPECT WORK TO CURRENT STEP		
17.0	PACKAGING 1 	PACKAGING RESOURCE #1 
Comment: PACKAGING RESOURCE #1 Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock Location: _____		

Date: Monday, 14/11/2005 8:53:26 AM
User: Alba Panzuto

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 23756

Part Number: D3304044

Job Number:



Seq. #:	Machine Or Operation:	Description :
18.0	DC	DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion

